Conditions for the Representation of a Harmonic Function by Green's Formula in a Multiply Connected Domain

39-44-2-5/10

where $u(\zeta)$ is an arbitrary function on Γ which is summable with regard to $\omega(E,z)$, it is necessary and sufficient that $u[\alpha(t)]$ admits in the circle the representation by the Poisson - Lebesgue integral

$$u[\alpha(t)] = \frac{1}{2\pi}\int_0^{2\pi} u[\alpha(e^{i\theta})]\,\frac{1-r^2}{1+r^2-2r\cos(\theta-\varphi)}\,d\theta\,,\quad t = re^{i\varphi}\,,$$

$\alpha(re^{i\varphi}) = z$.

Besides of this theorem 6 further theorems are proved. They all contain criteria for the representation of a harmonic function by Green's formula. Although this problem of representation was already considered in detail in a much more general form on Riemannian surfaces by Parreau (Ann.Inst. Fourier 3, 1951), the present criteria of the authors seem to be more useful for the applications. There are 6 references, 3 of which are Soviet, 1 Finnish, and 2 American.

SUBMITTED: November 13, 1956

AVAILABLE: Library of Congress

Card 2/2 1. Harmonic functions 2. Conformal mapping

TUMARKIN, G.TS.; KHAVINSON, S.Ya.

Properties of extremum functions in extremum problems for certain classes of analytic functions with a weighed metric. Dokl. AN SSSR 119 no.2:215-218 Mr '58. (MIRA 11:5)

1. Predstavleno akademikom M.A. Lavrent'yevym.
(Functions, Analytic)

AUTHOR: TUMARKIN, G.Ts., KHAVINSON, S.Ya. 42-1-6/13

TITLE: On the Definition of the Analytic Function Class E_p in Multiply Connected Domains (K opredeleniyu analiticheskikh funktsiy klassa E_p v mnogosvyaznykh oblastyakh)

PERIODICAL: Uspekhi Matematicheskikh Nauk, 1958, Vol.13, Nr.1, pp.201-206 (USSR)

ABSTRACT: Let G be an n-tuply connected domain with the boundary $\Gamma = \sum_{k=1}^{n} \gamma_k$, where none of the components γ_k degenerates in a point. Let Γ^i be the boundary of G^i, $G^i \subset G$. Let $z = \varphi(w)$ denote the conformal mapping of G onto a canonic circular domain K.

Definition: A function f(z) analytic in G belongs to the class $E_p(G)$ with $p > 0$ if there exists a sequence $\{\Gamma^i\}$ such that for $i \to \infty$ the domain $G^i \longrightarrow G$ and

$$\overline{\lim_{i \to \infty}} \int_{\Gamma^i} |f(z)|^p |dz| < \infty .$$

Card 1/2 Theorem: In order that $f(z) \in E_p(G)$ it is necessary and

On the Definition of the Analytic Function Class E_p in Multiply connected Domains 42-1-6/13

sufficient that the function $|f[\varphi(w)]|^p |\varphi'(w)|$ subharmonic in K has a harmonic majorant in K.

Theorem: In the domain G, for all classes E_p there exists a universal (i.e. for all $f(z) \in E_p(G)$ common) analytic sequence of contours $\{\Gamma^i\}$ which converges to Γ and for which

$$\int_{\Gamma^i} |f(z)|^p |dz| < C(f) \qquad (i=1,2,3,\ldots).$$

5 Soviet and 3 foreign references are quoted.

SUBMITTED: 3 December 1956
AVAILABLE: Library of Congress
Card 2/2 1. Analytic functions 2. Conformal mapping 3. Harmonics

TUMARKIN, G. TS.

Call Nr: AF 1100025

Transactions of the Third All-union Mathematical Congress, Moscow, Jun-Jul '56, Trudy '56, V. 1, Sect. Rpts., Izdatel'stvo AN SSSR, Moscow, 1956, 237 pp.

Tumarkin, G. Ts. (Moscow). On Certain Boundary Properties of Analytic Function Sequences. 106-107

TUMARKIN, G.TS.; KHAVINSON, S.Ya.

Erasure of features of analytic functions of a certain class (class D). Usp.mat.nauk 12 no.4:193-199 Jl-Ag '57. (MIRA 10:10)
(Functions, Analytic)

TUMARKIN, G.TS. (Moskva).

Mean approximation of functions on rectifiable curves. Mat. sbor. 42 no.1:79-128 My '57. (MLRA 10:9)
(Functions of complex variables)

TUMARKIN, G.TS.

Simultaneous mean approximation of complex-valued functions given along several closed curves. Dokl. AN SSSR 114 no.4:710-713 Je '57.

1. Moskovskiy geologo-razvedochnyy institut imeni S. Ordzhonikdze. Predstavleno akademikom M.A. Lavrent'yevym.
(Functions, Analytic)

SUBJECT USSR/MATHEMATICS/Theory of functions CARD 1/2 PG - 425
AUTHOR TUMARKIN G.Z.
TITLE On Cauchy Stieltjes' integrals.
PERIODICAL Uspechi mat. Nauk 11, 4, 163-166 (1956)
reviewed 12/1956

As is well-known, the integral

$$(1) \qquad \frac{1}{2\pi}\int_0^{2\pi}\frac{e^{i\theta}\,d\sigma(\theta)}{e^{i\theta}-z}$$

(where $\sigma(\theta)$ is a complex-valued function of bounded variation) defines a pair of analytic functions f_1 and f_2, from which f_1 is analytic in the unit circle and f_2 is analytic outside of it, where $f_2(\infty) = 0$. The author investigates the conditions which must be satisfied by two functions in order that they are representable by a Cauchy-Stieltjes' integral. Two theorems are proved:
1. Let $f_1(z)$ be analytic in $|z| < 1$ and $f_2(z)$ be analytic in $|z| > 1$; $f_2(\infty) = 0$. In order that these functions can be represented by an integral it is necessary and sufficient that there exists a $C > 0$ such that for all r $(0 < r < 1)$ the inequation

2

$$\int_0^{2\pi} \left| f_1(re^{i\theta}) - f_2\left(\frac{1}{r}e^{i\theta}\right) \right| d\theta < C.$$

is satisfied.

2. In order that a function $f(z)$ being analytic in $|z|<1$ can be represented by (1) it is necessary and sufficient that there exists a sequence $\{\Pi_n(\theta)\}$ of linear combinations of the system of functions $\{e^{-ik\theta}\}$ $(k=1,2,\ldots)$ for which

$$\overline{\lim_{n\to\infty}} \int_0^{2\pi} \left| f(r_n e^{i\theta}) - \Pi_n(\theta) \right| d\theta < \infty,$$

where $\lim_{n\to\infty} r_n = 1$ and $\Pi(\theta) = a_1 e^{-i\theta} + a_2 e^{-2i\theta} + \ldots + a_m e^{-mi\theta}$.

MAVLYANOV, G.A., otv.red.; KRYLOV, M.M., doktor geologo-mineral.nauk, red.; KENESARIN, N.A., doktor geologo-mineral.nauk, red.; GAFUROV, V.G., kand.geologo-mineral.nauk, red.; SLYADNEV, A.F., kand.geologo-mineral.nauk, red.; SALIDZHANOV, S.B., kand.tekhn.nauk, red.; KHASANOV, A.S., inzh., red.; TUMASHEVSKAYA, E.S., red.; MEL'NIKOV, A., tekhn.red.

[Materials on the reclamation of Golodnaya Steppe] Materialy k osvoeniiu Golodnoi stepi. Tashkent, Gos.izd-vo Uzbekskoi SSR, 1959. 184 p. (MIRA 13:8)

1. Akademiya nauk Uzbekskoy SSR, Tashkent. Institut geologii.
(Golodnaya Steppe--Reclamation of land)

TUMARKIN, L.A.; TOPTYGIN, L.A.

Basic trends of the automation of chemical sections in by-product coking plants. Zhur. VKHO 5 no.1:61-67 '60. (MIRA 14:4)

(Coke industry—Automation)

S/063/60/005/001/003/009

AUTHORS: Tumarkin, L. A., Toptygin, L. A.

TITLE: The Basic Trends in the Automation of Chemical Workshops at Coke-Chemical Plants

PERIODICAL: Zhurnal vsesoyuznogo khimicheskogo obshchestva im. D. I. Mendeleyeva, 1960, Vol. 5, No. 1, pp. 61-67

TEXT: The coke-chemical industry will be automated and mechanized during the next few years. Several measures are proposed in the article. The primary cooling of the coke gas should ensure the reduction of its temperature to 30-35°C under all meteorological conditions. Solid naphthalene will be eliminated from the surface of pipes by heating them automatically to the melting point of naphthalene. The sulfate separation can be automated in the existing equipment by avoiding the periodic dissolution of deposits on the walls of the saturater and installing continuous washing of the inner walls by mother liquor with an acidity of 12-15%. The automation of the benzene-scrubber department should ensure maximum extraction of benzene hydrocarbons. The principal difficulties in this respect are: the presence of many independent variables affecting the process of benzene sorption from coke gas; the deposits of resinous substances

Card 1/3

The Basic Trends in the Automation of Chemical Workshops at Coke-Chemical Plants

on the surface of the heat-exchange and collecting apparatus. The automation of the benzene-scrubber department cannot be realized without improving the quality of the absorbing oil. The supply of steam to the benzene column for distilling the benzene hydrocarbons from the absorbing oil should be controlled automatically. Hydrogen sulfide is collected from coke gas in continuous operations which can be automated easily. An exception is only the absence of an installation for the processing of substances from the solution of sulfur purification which cannot be recovered. A transducer must be developed which should indicate the content of hydrogen sulfide in the solution after regeneration. In the tar distillation workshop the continuous averaging of the different tar grades must be organized. The tar distillation can be automated by a system developed for oil refineries. The accurate separation of anthracene fractions can be solved by automation of the sprinkling of the upper part of the pitch column by the absorbing fraction. A continuous system for the washing of the naphthalene fraction and the processing of the anthracene fraction in continuously operating crystallizers were developed by the Ukrainskiy uglekhimicheskiy nauchno-issledovatel'skiy institut (UKhIN) (Ukrainian Coal-Chemical Scientific Research Institute) and Giprokoks. In the rectification of crude benzene all batch operations, e. g.,

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The Basic Trends in the Automation of Chemical Workshops at Coke-Chemical Plants

the washing of the benzene fractions by sulfuric acid and the production of toluene, must be eliminated. The neutralization of the benzene vapors must be automated by maintaining a temperature difference of 3-4°C between the liquid alkali and the vapors. Attention must be paid to corrosion-resistance of the materials employed. The automated installations will pay off within 2-2.5 years. There are 4 block diagrams.

Card 3/3

Tumarkin, L. A.

AUTHOR: Tumarkin, L. A. (Bagleyskiy Coke Oven Works). 68-8-2/23

TITLE: Crushing of Coals for Coking. (Izmel'cheniye ugley dlya koksovaniya).

PERIODICAL: Koks i Khimiya, 1957, No. 8, pp. 7-10 (USSR)

ABSTRACT: The importance of crushing gas coals separately from the other blend components in order to decrease the proportion of dust in the blend is discussed and supported by the experimental evidence obtained on the Bagleyskiy Coke Oven Works. Crushing experiments were carried out with a blend of the following composition, %: G-16, Zh-44, K-22 and OS-18. Gas coals were crushed separately, the size distribution of blends containing separately crushed gas coals in table 2. Under normal operating conditions (when components of all blends are crushed together) the output of the hammer mill was about 170 ton/hr with separate crushing of gas coals. This output can be increased to 495 ton/hr; moreover, the dust content of the blend can be decreased from 60-65% to about 45%. There are 3 tables and 5 references, all of which are Slavic.

Card 1/1

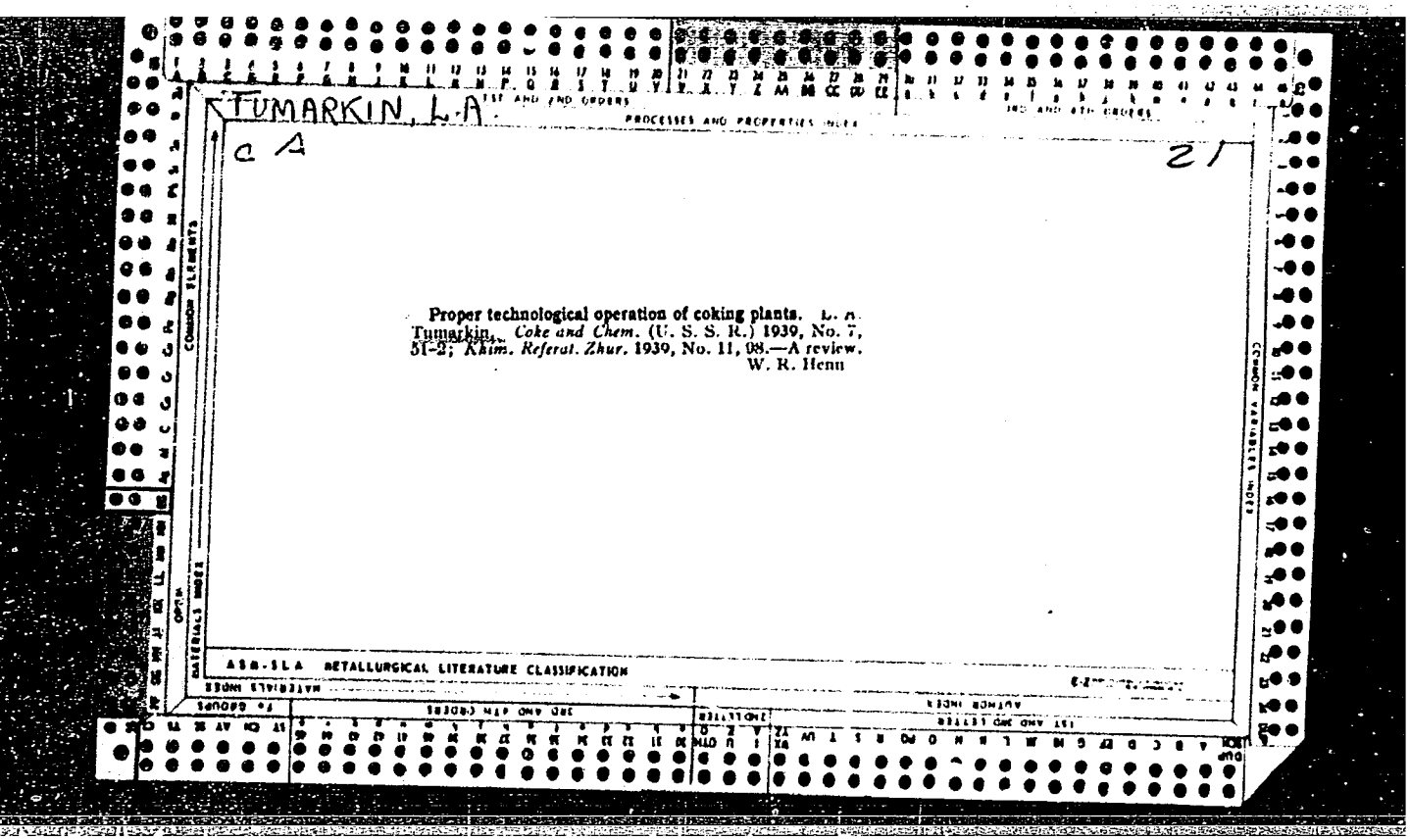
ASSOCIATION: Bagleyskiy Coke Oven Works (Bagleyskiy koksokhimicheskiy zavod)

AVAILABLE: Library of Congress

TUMARKIN, L.A.

Complete automatization of the sulfate plant.. Koks i khim. no.6: 42-44 '60. (MIRA 13:7)

1. Ukrainskiy uglekhimicheskiy institut.
(Ammonium sulfate) (Automatic control



TUMARKIN, L. A.

Sur allgemeinen Dimensionstheorie. Proc. Amsterd. Akad., 28:10 (1925).

SO: Mathematics in the USSR, 1917-1947
edited by Jurosh, A. G.,
Markushevich, A. I.,
Rashevskiy, P. K.
Moscow-Leningard, 1948

TUMARKIN, L.A.

Beitrag zur allgemeinen Dimensionstheorie, MATEM, SB., 33 (1926), 57-86

SO: Mathematics in the USSR, 1917-1947
edited by Jurosh, A. G.,
Markushevich, A. I.,
Rashevskiy, P. K.
Moscow-Leningard, 1948

TUMARKIN, L. A.

Uber die Dimension nicht abgeschlossener Mengen. MATH. ANN., 98 (1928), 637-656.

SO: Mathematics in the USSR, 1917-1947
edited by Jurosh, A. G.,
Markushevich, A. I.,
Rashevskiy, P. K.
Moscow-Leningard, 1948

TUMARKIN, L. A.

Sur la structure dimension nelle des ensembles fermes. C. R. Acad. Sci., 186 (1928), 420-4222

SO: Mathematics in the USSR, 1917-1947
edited by Jurosh, A. G.
Markushevich, A. I.,
Rashevskiy, P. K.
Moscow-Leningrad, 1948

TUMARKIN, L. A.

Tumarkin, L. A. (Mathematics) Coverings of one-dimensional compacts. P. 3

Chair of Mathematical Analysis
Oct. 26, 1950

SO: Herald of the Moscow University (Vestnik), Series on Physical, Mathematical and Natural Sciences, No. 2, Vol. 6, No. 3, 1951

Chair of Math. Analysis

SUBJECT USSR/MATHEMATICS/Topology CARD 1/1 PG - 446
AUTHOR TUMARKIN L.A.
TITLE On a universal metric space for compacta.
PERIODICAL Vestnik Moskovsk. Univ. 11, No.2 (Ser.fiz.-mat. estestv.Nauk No.1) 15-19 (1956)
reviewed 12/1956

In the present paper it is proved that there exists no compact metric space which contains the isometric image of every compact metric space of diameter d ($d > 0$). Several problems relative to the universal spaces are established, e.g.: It must be decided whether for all metric, at most n-dimensional spaces with contable basis there exists a universal metric finite-dimensional space with a countable basis.

Chair of mathematical Analysis

TUMARKIN, L.A.

AUTHOR: Tumarkin, L. A., 20-2-12/62

TITLE: On the Infinitely Dimensional Kantorian (rects:Cantorian) Manifolds (O beskonechnomernykh kantorovykh mnogoobraziyakh)

PERIODICAL: Doklady Akad. nauk SSSR, 1957, Vol. 115, Nr 2, pp. 244-246,(USSR)

ABSTRACT: Reference is made to relevant preliminary works. The author generalizes the conception of the Cantorian manifold to infinitely dimensional compacts. An infinitely dimensional compact is here called an infinitely dimensional Cantorian manifold, when it may not be split up by any finitely dimensional closed sub-set. An infinitely dimensional compact is then and only then an infinitely dimensional Cantorian manifold, when this compact cannot be split up into two closed true sub-sets with a finitely dimensional cross section. A Hilbert parallelepiped, e.g., is an infinitely dimensional Cantorian manifold. It may also be that an infinitely dimensional compact does not contain any infinitely dimensional Cantorian manifold. Thus can be taken in Hilbert's parallelepiped an infinite sequence of cones intersecting themselves in pairs, whose radii converge toward a certain point. In this connection the radii tend toward zero and the dimension number increases indefinitely. In 1926 the author posed the following(hitherto unsolved) problem: Does every infinitely dimensioal compact contain finitely dimensional compacts with any number ofdimensions. The theorem proved in the present paper has a certain relation to this problem and to the

Card 1/2

On the Infinitely Dimensional Kantorian (recte: Cantorian) Manifolds.20-2-12/62

problem of the existence of an infinitely dimensional Cantorian manifold in an infinitely dimensional compact. This theorem reads as follows: For any infinitely dimensional compacts R the following can be stated: a) R either contains finitely dimensional compacts with any number of dimensions, or b) R contains an infinitely dimensional Cantorian manifold. The proof of this theorem is carried out here. There are 6 references, 2 of which are Slavic.

ASSOCIATION: Moscow State University imeni M.V. Lomonosov (Moskovskiy gosudarstvennyy universitet M.V. Lomonosova)

PRESENTED BY: Aleksandrov, P. S., Academician, February 9, 1957

SUBMITTED: February 8, 1957

AVAILABLE: Library of Congress

Card 2/2

Tumarkin, L.A.

44-1-237

TRANSLATION FROM: Referativnyy zhurnal, Matematika, 1957, Nr. 1, p 33 (USSR)

AUTHOR: Tumarkin, L.A.

TITLE: On Universal Metric Spaces (Ob universal'nykh metricheskikh prostranstvakh)

PERIODICAL: Tr. 3-go Vses. matem. s"yezda, 2, Moscow, AN SSSR 1956, p. 136

ABSTRACT: The author maintains that a compact metric space, which contains isometrically any compact metric space of diameter $\leq d (d>0)$, does not exist.

Card 1/1

GAKHOV, F.D.; LOZINSKIY, S.M.; TUMARKIN, L.A.

[Program in mathematical analysis for physicomathematics, and mechanics and mathematics faculties of state universities. Majors: mathematics and mechanics] Programma po matematicheskomu analizu dlia fiziko-matematicheskikh i mekhaniko-matematicheskikh fakul'tetov gosudarstvennykh universitetov. Spetsial'nosti: Matematika i mekhanika. Minsk, Izd-vo Gelgosuniv., 1958. 6 p. (MIRA 11:3)

1. Russia (1923- U.S.S.R.) Ministerstvo vysshego obrazovaniya. (Mathematics--Study and teaching)

80454

S/055/60/000/01/03/009

11.5400

AUTHOR: Tumarkin, L.A.

TITLE: On the Decomposition of Spaces Into a Countable Number of Zero-Dimensional Sets

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya I, matematika, mekhanika, 1960, No.1, pp.25-32

TEXT: The author proves the theorem IV: Let R be an infinite-dimensional metric space with a countable base, which is a sum of countably many zero-dimensional sets. Then R can be decomposed into countably many pairwise disjoint zero-dimensional sets so that the union of every finite number of these sets remains zero-dimensional.
The theorems I-III are special cases. The author mentions P.S.Uryson and Yu.M.Smirno . There are 6 references: 3 Soviet, 1 German, 1American and 1 Japanese.

ASSOCIATION: Kafedra matematicheskogo analiza (Deparment of Mathematical Analysis)

SUBMITTED: May 8, 1959

Card 1/1

ORLOV, M.L.; TUMARKIN, L.A.; YEPIMAKHOV, N.M.; SORKIN, M.M.; KOPTEV, G.P.

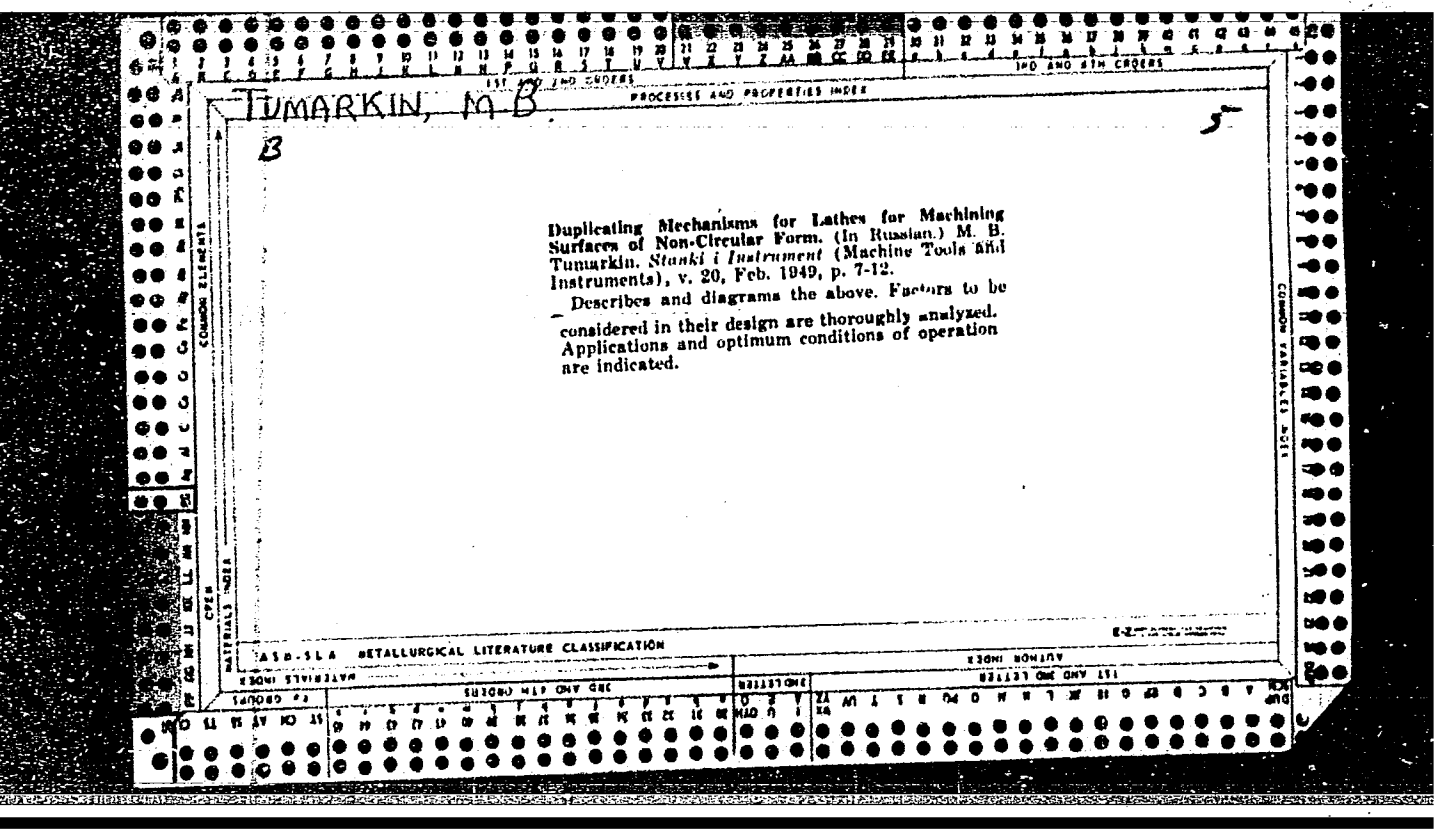
Improving the process of the primary separation of crude benzol. Koks i khim. no.3:36-41 '64. (MIRA 17:4)

1. Ukrainskiy uglekhimicheskiy institut (for Orlov, Tumarkin).
2. Bagleyskiy koksokhimicheskiy zavod (for Yepimakhov, Sorkin, Koptev).

TUMARKIN, L.A.

Highly and weakly infinite-dimensional spaces. Vest. Mosk. un. Ser.1: Mat., mekh. 18 no.5:24-27 S-O '63. (MIRA 16:10)

1. Moskovskiy gosudarstvennyy universitet, kafedra matematicheskogo analiza.



TUMARKIN, M.B.

B

5

Duplicating Mechanisms for Lathes for Machining Surfaces of Non-Circular Form. (In Russian.) M. B. Tumarkin. *Stanki i Instrument* (Machine Tools and Instruments), v. 20, Feb. 1949, p. 7-12.

Describes and diagrams the above. Factors to be considered in their design are thoroughly analyzed. Applications and optimum conditions of operation are indicated.

TUMARKIN, M.B.

Profiling by means of contact contour follower systems. Stan. i instr. 26 no.10:21-23 0'55. (MLRA 9:1)
(Machine-shop practice)

TUMARKIN, M.B., kandidat tekhnicheskikh nauk, dotsent.

Selection of parameters of pneumatic recorders in follower systems. Vest.mash. 35 no.12:3-7 '55. (MLRA 9:5)
(Pneumatic machinery) (Servomechanisms)

Mikhail Borisovich

TUMARKIN, M.B.

TUMARKIN, M.B.

Improving tracer systems for copy-milling machines. Stan. i instr. 28 no.11:14-16 N '57. (MIRA 10:12)
(Milling machines)
(Hydraulic machinery)

25 (1) SOV/145-58-7/8-6/24

AUTHOR: Tumarkin, M.B., Docent, Candidate of Technical Sciences

TITLE: Hydraulic Servosystems with Double Control Actuating Mechanisms

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy - Mashinostroyeniye, 1958, Nr 7-8, pp 48-59 (USSR)

ABSTRACT: In Fig 1, a pertinent layout illustrating a hydraulic servosystem with double control actuating mechanism is given. Its main parameters are: speed characteristic, traction characteristic, velocity-error constant, traction-error constant, system rigidity and system dead zone. The speed characteristic is the dependence of the servomotor speed V on the opening of the valve h : $v - f(h)$; the traction characteristic is the dependence of the servomotor force on the opening of the valve $R = f(h)$; the velocity-error constant is a derivative of servomotor speed by the valve opening

Card 1/3 c : $c = \frac{\delta v}{\delta h}$; the traction-error constant is a deriva-

Hydraulic Servosystem with Double Control Actuating Mechanisms

tive of servomotor force by the valve opening j : $j = \frac{\partial R}{\partial h}$; the system rigidity is determined by the traction-error constant j when the speed is equal to zero $j_0 = j_v = 0$; the dead zone Δ_1 is the valve displacement from its initial position. Some characteristics of hydraulic servosystems are described in the works by B.L. Korobochkin, "Comparative Estimation of Hydraulic Copying Devices", published in "Stanki i instrument", Nr 10, 1952 [1], and by V.A. Khokhlov, "Speed Characteristics of Hydraulic Actuating Mechanisms with Valve Control", published in "Avtomatika i telemekhanika", Volume XXI, Nr 5, 1955 [2]. The author introduces the following designations: $v = \mu v_0$; $R = \lambda p_0 F$; $h = \gamma \frac{v_0 F}{\alpha b \sqrt{p_0}}$, where v_0 is the maximum movement speed of the system; p_0 - maximum pressure applied to the system; F - servomotor working surface; b - valve

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Hydraulic Servosystem with Double Control Actuating Mechanisms

working perimeter; α - coefficient. The factor μ, λ, and γ express respectively the servomotor speed, its traction force and the valve opening. In that case, characteristics and coefficients of the system will be expressed in the following way: $\mu = f(\gamma)$; $\lambda = f(\gamma)$; $c = s \frac{\partial \mu}{\partial \gamma}$; $j = r \frac{\partial \lambda}{\partial \gamma}$; $\Delta_1 = l\gamma = 0$, where s, r and l are constant dimensional factors. Having determined relations between different parameters of the system, the author analyzes several individual cases establishing the criterion for selection of a proper layout to meet specific requirements. There are 3 graphs, 4 figures and 3 references, 2 of which are Soviet and 1 German.

ASSOCIATION: Khar'kovskiy aviatsionnyy institut (Khar'kov Aviation Institute)

SUBMITTED: March 13, 1957

Card 3/3

SOV/122-58-11-11/18

AUTHOR: Tumarkin, M.B., Candidate of Technical Sciences, Docent

TITLE: The Control of Hydraulic Servo-motor Mechanisms in Tracing Systems (Upravleniye gidravlicheskimi ispolnitel'nymi mekhanizmami sledyashchikh sistem)

PERIODICAL: Vestnik Mashinostroyeniya, 1958, Nr 11, pp 59-65 (USSR)

ABSTRACT: Disputing the significance of an earlier classification proposed by Korobochkin, B.L. published in the symposium "Modern Trends in Production Equipment" (Sovremennyye Napravleniya V Oblasti Tekhnologicheskogo Oborudovaniya) Mashgiz 1957, the Author proposes a classification based on motion control. The controlling organ can act on four control features namely the pressure and return communication with one or the other side of the piston. All possible variants thus reduce to 9 basic schemes shown in Fig.1. Fig.2 shows the same nine variants with their control valves. Most widely used are variants 1 and 9, namely, either pressure and return control of both sides or return

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The Control of Hydraulic Servo-motor Mechanisms in Tracing Systems

control only of one side only. Some attempts by non-Russian authors to judge hydraulic servo-motors by means of electrical analogies are stated to be of limited value. The proper hydraulic criteria of merit are considered individually for each of the nine basic variants. The velocity characteristic of the system is the velocity as a function of the control valve opening. The derivative of this function (or slope of its plot) is the velocity gain of the servo-motor. The load characteristic is the force (or toque) as a function of the control valve opening. Its derivative (or slope) is the load gain of the servo-motor. The stiffness of the system is the load gain at zero velocity. The insensitivity zone is the control valve displacement corresponding to the beginning of motion. The power efficiency of the system is the output power of the servo-motor divided by the minimum required pump input power at maximum rated servo-motor output. To achieve generality, the actual velocity, load and control valve opening are referred to the respective

Card 2/4

The Control of Hydraulic Servo-motor Mechanisms in Tracing Systems

rated maximum values by means of non-dimensional coefficients. (mu, lambda and x). Each of the quantitative criteria, for each of the nine systems of servo-motor control, is expressed by a formula containing non-dimensional coefficients and constant size factors (namely s, r and l which constitute combinations of the valve orifice coefficient, the length of the control valve port, the rated maximum pressure, the rated maximum velocity and the piston area). The velocity characteristics are plotted in Fig.3; the velocity gains in Fig.4; the load characteristics in Fig.5; the load gains in Fig.6 and the power efficiencies (based on a constant delivery pump supply) in Fig.7. In all derivations, control valve leakages are ignored. This assumption yields infinite stiffness in most systems. System 1 is among the stiffest in both directions of motion. Some systems, including system 9, have an appreciable zone of insensitivity (equation 24). System 1 has a zero insensitivity with an ideal control valve, assumed in

The Control of Hydraulic Servo-motor Mechanisms in Tracing Systems

all derivations. Various modifications of the basic systems are briefly discussed. General conclusions are drawn about the suitability of systems. Only system 1 answers the requirements of full equivalence in both directions of motion and possesses the highest merits by all criteria. The systematic classification and generalised conclusions about the significant properties of each system can help in the broad analysis and the selection of servo-motor variants in the design stage. There are 7 illustrations including 5 graphs and 7 references of which 4 are Russian and 3 English.

ACC NR: AM7003444 Monograph UR/

Tumarkin, Mikhail Borisovich

Hydraulic servo drives; structure and kinematics (Gidravlicheskiye sledyashchiye privody; struktura i kinematika) Moscow, Izd-vo "Mashinostroyeniye", 66. 0295 p, illus., biblio. Errata slip inserted. 10,000 copies printed.

TOPIC TAGS: servomechanism, servosystem, slave mechanism, activator, hydraulic servomechanism

PURPOSE AND COVERAGE: Structure and kinematics of hydraulic servodrives is investigated by the structural analysis method taking into account the known and possible relationships between the elements of the servomechanism. On the basis of structural characteristics, a criterion is established for selecting and calculating the most efficient system design. An experimental method for investigating hydraulic servomechanisms that includes direct plotting of their principal characteristics in an oscillogram is presented. The book is intended for workers in designing and planning organizations, research laboratories, and persons working in the fields of hydraulic automation, mechanization, and general automation of machine tools, machines, and technological processes.

Card 1/3 UDC: 62-522

ACC NR: AM7003444

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ACC NR: AM7003444

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Characteristics of main circuits of hydraulic servodrives -- 283

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SUB CODE: 13/ SUBM'DATE: 05Mar66/ ORIG REF: 018/ OTH REF: 001

Card 3/3

TUMANKIN, M.B., kand. tekhn. nauk

Selecting the design for the hydraulic servo steering of the [illegible] tractor. Trakt. i sel'khozmash. no.6:6-9 Je '65. (MIRA 18:7)

TUMARKIN, M.B., kand. tekhn. nauk

Hydraulic servosystems. Mekh. i avtom. proizv. 17 no.4:32-40 Ap '63. (MIRA 17:9)

TUMARKIN, M.B., kand. tekhn. nauk

Criteria for the evaluation and the selection of the circuit of a hydraulic servomechanism. Mekh. i avtom. proizv. 18 no.6:23-29 Je '64. (MIRA 17:9)

TUMARKIN, M.B., kand.tekhn.nauk

Synthesis of methods and the characteristics of control systems for hydraulic servomechanisms. Mekh.i avtom.proizv. 16 no.2:27-31 F '62. (MIRA 17:3)

TUMARKIN, M.B.

Two-stage hydraulic servosystems. Stan.i instr. 34 no.2:9-12 F '63.
(MIRA 16:5)
(Hydraulic control)

S/121/63/000/002/003/010
D040/D112

AUTHOR: Tumarkin, M.B.

TITLE: Two-stage hydraulic tracing systems

PERIODICAL: Stanki i instrument, no.2, 1963, 9-12

TEXT: A general review is made of various existing design and operation principles of hydraulic and electrohydraulic two-stage tracing systems used in modern process control and machine tools. The types of the systems are discussed and the operational advantages of some are pointed out. One system that is recommended for wide application is employed by many Western firms, such as Vickers, Weston, Sanders and others. This system with electric input can be assembled on the unit head principle. The discussion is accompanied by diagrams and equations describing the system operation. There are 4 figures.

Card 1/1

TUMARKIN, M.B.

Hydraulic servosystems operating under constant consumption conditions and having a differential-action motor. Stan.i instr. 33 no.7:9-14 Jl '62. (MIRA 15:7)
(Hydraulic control)

TUMARKIN, M.B., kand.tekhn.nauk; KAMSKOV, L.F., kand.tekhn.nauk; BALATSKIY, V.V., inzh.; MANZHOS, P.S.

Hydraulic servomechanism for guiding automatic welding machines along a weld joint. Svar. proizv. no.6:28-30 Je '62. (MIRA 15:6)

1. Khar'kovskiy aviatsionnyy institut.
(Electric welding) (Hydraulic control)

TUMARKIN, M.B., kand.tekhn.nauk

Engineering efficiency of hydraulic follow-up systems with a constant rate of consumption. Vest.mashinostr. 42 no.5:17-25 My '62. (MIRA 15:5)
(Hydraulic control)

TUMARKIN, Mikhail Borisovich; IVANOV, N.L., otv. red.; TRET'YAKOVA, A.N., red.; TROFIMENKO, A.S., tekhn. red.

[Kinematic adjustment of feed mechanisms of machine tools] Kinematicheskaia nastroika tsepei podach metallorezhushchikh stankov. Khar'kov, Izd-vo Khar'kovskogo univ., 1961. 185 p. (MIRA 15:7)
(Feed mechanisms) (Machine tools)

39265
S/135/62/000/006/009/014
A006/A106

1.2300

AUTHORS: Tumarkin, M. B., Kamskov, L. F., Candidates of Technical Sciences, Balatskiy, V. V., Engineer, Manzhos, P. S.

TITLE: Hydraulic servomechanism to direct an automatic welding unit along the weld

PERIODICAL: Svarochnoye proizvodstvo, no. 6, 1962, 28 - 30

TEXT: A hydraulic servomechanism was developed for the automatic motion of a welding unit along a cable (Figure 1). A guide roll, sliding along the cable, registers deviations of the welding torch and transmits them to control valve 4, which reestablishes the correct position of the torch with the aid of pneumatic cylinder 1. To one side the torch moves under the effect of oil supplied under pressure P_1 to the left-hand hollow of the cylinder; to the other side its motion is activated by spring 3. The welding unit moves along the weld on girder guides. The seam can be located parallel or non-parallel to the guides. In the latter case, when the track motion is connected with the turning of the welding torch, the cable must be adjusted with respect to the seam with some correction. The proposed design of the servomechanism can be used in weld-

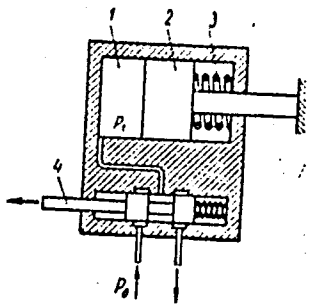
Card 1/2

Hydraulic servomechanism to...

ing of long straight or shaped joints. Tests showed stable operation of the mechanism. The motion speed of the system increases with a greater oil presssure. Maximum speed can be attained (up to 1,000 mm/min) at a pressure of P_o = 25 ÷ 30 kg/cm^2. There are 4 figures.

ASSOCIATION: Khar'kovskiy aviatsionny institut (Khar'kov Aviation Institute)

Figure 1.
Schematic diagram of a hydraulic servomechanism



S/121/62/000/007/001/006
D040/D113

AUTHOR: Tumarkin, M.B.

TITLE: Hydraulic constant-flow scanning systems with differential power drive

PERIODICAL: Stanki i instrument, no. 7, 1962, 9-14

TEXT: The discussed scanning systems, in which the pressure is adjusted to the speed and load of servomotion, are used in copy-milling machines of the Odesskiy stankostroitel'nyy zavod im. Kirova (Odessa Machine Tool Plant im. Kirov). They are similar to those used in semiautomatic multicutters of the Magdeburg Firm and copying lathes used by the Loewe and Heiligenstadt firms. The study was conducted because of insufficient published data on such systems. The presented data help determine where it is economical to use constant flow scanning systems, where constant pressure systems should be used or where a combination of both is better; data is also given for calculating the optimum cylinder dimensions, oil pump capacity and valve

Card 1/2

S/121/62/000/007/001/006
D040/D113

Hydraulic constant-flow scanning systems...

perimeter. Six different constant-flow system designs are analyzed and a practical calculation example is given. The systems are shown in diagrams. There are 6 figures and 1 table.

Card 2/2

S/118/62/000/002/003/005
D221/D301

AUTHOR: Tumarkin, M.B., Candidate of Technical Sciences

TITLE: Synthesis of methods and the characteristics of control systems for hydraulic actuator mechanisms

PERIODICAL: Mekhanizatsiya i avtomatizatsiya proizvodstva, no. 2, 1962, 27 - 31

TEXT: The article is an attempt to generalize and systematize the existing and possible methods of control for hydraulic actuators. In the basic system all four elements of the actuator, namely the input and drainage of both chambers are controlled. Other methods of control may be obtained by suppressing some of the elements. This results in simplifications of the circuit and changes in its characteristics, causing a certain loss of capacity. The latter may be, however, restored by the provision of some additional conditions, such as independent supply for the uncontrolled chamber, separate exhaust or reference valve for uncontrolled return, or creation of a constant force on the uncontrolled side. The classifica-

Card 1/3

Synthesis of methods and the ...

tion permits forming nine main schemes (classes), each subdivided into groups. It also facilitates the description of the systems with various methods of control by the same static equations of flow, continuity and equilibrium. These equations are quoted in dimensionless form for simplifying the mathematical analysis. The three mentioned equations permit the speed, traction, rigidity and the zone of insensitivity of the system to be deduced. For illustration purposes, the author determines the speed characteristic of the system 1 - 0 in the case of its operation with constant pressure. The solution results in the known characteristic for bilateral control, $\mu = 0.71 \times \sqrt{1 - \lambda}$, where x is the dimensionless opening of the metering valve. The characteristic of the same system working with constant delivery may be determined by taking into account its structural features. The author deduces the following speed characteristic:

$$\mu = \frac{x_o^2 + x^2 - (x_o^2 - x^2\sqrt{1 + 4x_o x\lambda}}{2x_o x}$$

Card 2/3

where x_0 is the symmetrical underlap of the valve which ensures the operation of the system with a constant delivery. The characteristics of servo systems with variable delivery pumps are derived from the same equations. The analysis permits the finding of systems with similar properties provided their analogous structure determines identical characteristics. As an example, the structurally similar systems 8 - 5 and 9 - 5 are considered. The analysis reveals that the latter possesses the same speed characteristic, except that the relationship between the valve opening and the speed of the actuator is reversed. In the case of system 9 - 5, the increase of valve opening produces a drop in the speed, whereas in 8 - 5 this results in speed increase. The advantage of the latter system is the fact that the throttled fluid is returned to the tank, but in the case of 9-5 unit it is fed into the system. This is followed by a comparison of two other cases and provides a proof of the utility of systematization for the choice of arrangement. There are 6 figures.

Card 3/3

TUMARKIN, M.B.

Bench testing of hydraulic servosystems. Stan. i instr. 32 no. 1:3-7 Ja '61. (MIRA 14:2)
(Hydraulic control—Testing)

TUMARKIN, M.B., kand.tekhn.nauk, dotsent

New systems of hydraulic servomechanisms. Izv.vys.ucheb.zav.; mashinostr. no.7:3-12 '60. (MIRA 13:11)

1. Khar'kovskiy aviatsionyy institut.
(Hydraulic control)

TUMARKIN, N.Ya.; YARUSALIMSKIY, B.L.

Kinetics of ethylene polymerization under the effect of tetramethyltetrazene. Vysokom.soed. 7 no.7:1213-1216 Jl '65. (MIRA 18:8)

1. Okhtinskiy khimicheskiy kombinat i Institut vysokomolekulyarnykh soyedineniy AN SSSR.

KOROLEV, N. Ye., inzh.; TUMARKIN, P.I., inzh.

Equipment for molding three-dimensional reinforced concrete bathrooms. Stroi. i dor. mash. 10 no.1:25-26 Ja '65 (MIRA 18:2)

TUMARKIN, P.I., inzh.

The 6943/2a unit for cleaning formwork. Stroi. i dor. mash. 8 no.11:31-33 N '63. (MIRA 17:1)

GORBOVETS, M.N., inzh.; TUMARKIN, P.I., inzh.; SHTEYNBERG, A.S., inzh.

Manufacturing external panels for the 1-464A-series homes in packet molds. Stroi. i dor. mash. 9 no.12:27-28 D '64. (MIRA 18:3)

GOLUBOVICH, S.R.; FINK, L.Ye.; TUMARKIN, P.I., inzh.; SHTEYNBERG, A.S., inzh.; GRIZAK, Yu.S., inzh., retsenzent; OTDEL'NOV, P.V., inzh., red.izd-va; TIKHANOV, A.Ya., tekhn. red.

[New equipment for manufacturing building materials] Novoe oborudovanie dlia proizvodstva stroitel'nykh materialov; spravochnoe posobie. Moskva, Mashgiz, 1963. 247 p. (MIRA 17:1)

PEL'TS, D.G., TUMARKIN, R.I.

Effect of hypothermia and anesthesia on phagocytic activity of leukocytes and on bacteriocidal properties of the blood. Zhur.mikrobiol. epid. i immun. 29 no.7:72-75 Jl '58 (MIRA 11:8)

(ANESTHESIA, effects,
on blood bactericidal properties & phagocytosis (Rus))
(HYPOTHERMIA, effects,
same (Rus))
(BLOOD,
bactericidal properties, eff. of anesth. & hypothermia (Rus))
(PHAGOCYTOSIS,
eff. of anesth. & hypothermia (Rus))

TUMARKIN, R.I.

Use of the phenomenon of microbial antagonism for accelerated destruction of pathogenic bacteria in the soil. Zhur.mikrobiol., epid. i immun. 41 no.5:146 My '64. (MIRA 18:2)

1. Institut epidemiologii i mikrobiologii imeni Gamaleĭ AMN SSSR.

TUMARKIN, R.I.

Data on the distribution of actinomycetes and fungi (Penicillium and Aspergillus) antagonistic to pathogenic bacteria in Sakhalin and Maritime Territory soils [with summary in English]. Mikrobiologiia 27 no.5:619-625 S-O '58 (MIRA 11:12)

(SOIL, microbiology,
Aspergillus & Penicillium, antag. to pathogenic bact. (Rus))
(ASPERGILLUS,
in soil, antag. to pathogenic bact. (Rus))
(PENICLLIUM,
same (Rus))

TUMARKIN, R.I.

Species characteristics and antibiotic properties of actinomycetes isolated from the soil of the Maritime Territory. Mikrobiologiia 30 no.1:99-104 Ja-F '61. (MIRA 14:5)
(MARITIME TERRITORY--ACTINOMYCES)
(MARITIME TERRITORY--SOILS)

TUMARKIN, S. A.

Designing a Fan for Durability, 1940.

TUMARKIN, S. A.

TUMARKIN, S. A.

Ob otsenke oshibok v metode srednikh. Moskva, 1935. 16 p., illus. (TSAGI. Trudy, no. 198)
Summary in English.
Title tr.: On the evaluation of errors in the method of means.

QA911.T65 no. 198

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

PHASE I BOOK EXPLOITATION SOV/6521

Osipova, L. N., and S. A. Tumarkin

Tablitsy dlya rascheta toroobraznykh obolochek (Tables for the Design of Toroidal Shells) Moscow, AN SSSR VTs, 1963. 91 p. 2200 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Vychislitel'nyy tsentr.
Resp. Ed.: V. A. Ditkin, Professor; Ed.: I. A. Orlova;
Tech. Ed.: A. I. Korkina.

PURPOSE: The book is intended for designers and structural analysts concerned with designing shell constructions for strength and stability.

COVERAGE: Tables are composed for an asymptotic solution of differential equations of toroidal shells under symmetrical loading (see the article by S. A. Tumarkin in Prikladnaya matematika i mekhanika, v. 23, no. 6, 1959). The tables of generalized Airy functions by L. N. Nosova and S. A. Tumarkin,

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published by the Vychislitel'nyy tsentr AN SSSR, 1961, are also used. The tables were computed on the "Strela" high-speed electronic computer; they contribute largely to the simplification of shell design since the asymptotic method offers formulas for maximal stresses, displacements, and other quantities. The tabulated functions and their derivatives are explained and plotted in diagrams. The arrangement and utilization of the tables are discussed and illustrated by examples. The derivation of design formulas is briefly outlined and the general solution of the differential equation of the shell is given by a simple sum, each term of which is a tabulated function. Sample analyses of toroidal shells are presented and some results are given in tabular and graphic form. The authors thank M. A. Rudis, N. N. Perevezentseva, K. S. Il'in, T. V. Firsova, T. V. Mazurova, and V. I. Pasynkova. There are 14 references: 10 Soviet and 4 English.

TABLE OF CONTENTS [Abridged]:

TUMARKIN, S.A., prof., doktor

Principles of developing an asymptotic method of calculating the bend of blades. Nauch. trudy MGI no.23:217-219 '58. (MIRA 15:12)

(Fans, Mechanical)

TALKIN, S. A.

N apriazheniia v obode so spitsami i lopastiami. Moskva, 1936 26 p., diagrs. (TSAGI. Trudy, no. 271)

Summary in English.

Title tr.: Analysis of stresses in a rim with spokes and blades

QA911.M65 no.271

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

OSIPOVA, L.N.; TUMARKIN, S.A.; DITKIN, V.A., prof., otv. red.; ORLOVA, I.A., red.; KORKINA, A.I., tekhn. red.

[Tables for calculating toroidal shells] Tablitsy dlia rascheta toroobraznykh obolochek. Moskva, Vychislitel'nyi tsentr AN SSSR, 1963. 91 p. (MIRA 16:6)
(Elastic plates and shells--Tables, calculations, etc.)

TUMARKIN, S.A.

16(1) PHASE I BOOK EXPLOITATION SOV/2660

Vsesoyuznyy matematicheskiy s"yezd. 3rd, Moscow, 1956

Trudy. t. 4: Kratkoye soderzhaniye sektsionnykh dokladov. Doklady inostrannykh uchenykh (Transactions of the 3rd All-Union Mathematical Conference in Moscow. vol. 4: Summary of Sectional Reports. Reports of Foreign Scientists) Moscow, Izd-vo AN SSSR, 1959. 247 p. 2,200 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Matematicheskiy institut.

Tech. Ed.: G.N. Shevchenko; Editorial Board: A.A. Abramov, V.G. Boltyanskiy, A.M. Vasil'yev, B.V. Medvedev, A.D. Myshkis, S.M. Nikol'skiy (Resp. Ed.), A.G. Postnikov, Yu. V. Prokhorov, K.A. Rybnikov, P. L. Ul'yanov, V.A. Uspenskiy, N.G. Chetayev, G. Ye. Shilov, and A.I. Shirshov.

PURPOSE: This book is intended for mathematicians and physicists.

COVERAGE: The book is Volume IV of the Transactions of the Third All-Union Mathematical Conference, held in June and July 1956. The book is divided into two main parts. The first part contains summaries of the papers presented by Soviet scientists at the Conference that were not included in the first two volumes. The second part contains the text of reports submitted to the editor by non-Soviet scientists. In those cases when the non-Soviet scientist did not submit a copy of his paper to the editor, the title of the paper is cited and, if the paper was printed in a previous volume, reference is made to the appropriate volume. The papers, both Soviet and non-Soviet, cover various topics in number theory, algebra, differential and integral equations, function theory, functional analysis, probability theory, topology, mathematical problems of mechanics and physics, computational mathematics, mathematical logic and the foundations of mathematics, and the history of mathematics.

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TUMARKIN, S.A.

report presented at the 1st All-Union Congress of Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb '60.

268. L. K. Stavraki (Kuibishev): Strain design and general stability of structures.

269. L. N. Stavrayi (Kuibishev): A general method of solving non-linear problems of structural mechanics.

270. S. D. Stepanov (Moscow): A contribution to the non-linear problem of plate flutter.

271. L. G. Stepanskii, E. P. Unksov (Moscow): On the use of variational principles for the approximate solution of some problems of plastic equilibrium.

272. A. I. Strelbitskaia (Kiev): Experimental investigation of the oblique bending of steel beams beyond the elastic limit.

273. A. S. Stroganov (Moscow): Strength and visco-plastic flow of soils.

274. G. I. Ter-Stepanian (Erevan): The relation between pore pressure and rate of creep of slopes.

275. L. A. Tolokonnikov (Tula): Finite plastic strains of non-linearly deformed bodies.

276. A. D. Tomlenov (Moscow): Piercing of metals by a spherical punch considering contact friction.

277. Ie. L. Turchinskaia (Moscow): An asymptotic method of designing flexible blades of variable pitch at high speeds of rotation.

278. R. V. Torner (Moscow): Application of similarity methods to the analysis of the flow of rubber compounds.

279. A. A. Trapeznikov, T. G. Shalopalkina (Moscow): Dependence of the maximum elastic and discontinuous strains of aluminum-naphtenate gels on strain rates.

280. S. A. Tumarkin (Moscow): An asymptotic method for the design of toroidal shells.

281. V. K. Turkin (Moscow): Some problems of soil dynamics.

282. N. V. Tiabin (Kazan): The flow in the boundary layer of an elastic, visco-plastic medium.

283. A. G. Ugodtsikov (Gorkii): Some problems concerning the analysis of stresses in shrink fits.

284. G. V. Uzhik (Moscow): On strength and rupture criteria for metals in the presence of stress concentrations.

285. I. F. Ulitskii (Kiev): Some problems of non-linear creep.

286. A. A. Umanskii (Moscow): Analogy and model methods in problems of structural mechanics concerning bars and thin-walled structures.

287. M. T. Urazbaev (Tashkent): The problem of seismic strength of fluid supported hydraulic structures.

288. Ia. S. Ufliand (Leningrad): Application of integral transformations to the solution of some problems concerning an elastic wedge.

289. K. S. Fadeeva (Moscow): Deformations of plastic clays in moulding.

290. I. V. Fadeev (Moscow): Elastic-plastic equilibrium of an acute granular wedge.

291. M. L. Faldman (Dnepropetrovsk): Stability and vibrations of orthotropic plates of variable thickness.

292. A. P. Filippov (Kharkov): Extensional vibrations of turbine discs.

293. M. M. Filonenko-Borodich (Moscow): On the possibility of generalising the Mohr and Huber-Mises-Hencky theories of rupture.

294. E. P. Flaishman (Lvov): Some problems concerning the bending of plates and shells with stiffeners.

295. L. M. Flitman (Moscow): On the impact of a wave on a heavy rigid sphere embedded in an elastic medium.

296. V. A. Florin (Leningrad): Some problems concerning rock formations of hydraulic structures.

297. V. A. Florin (Leningrad): Present state and problems of soil mechanics.

298. V. A. Florin (Leningrad): Flow conditions for saturated sands.

299. N. V. Florina (Leningrad): Experimental study of real and apparent friction in vibrating soils.

300. B. N. Fradlin, S. M. Shakhnovskii (Kiev): On the construction of Green's functions for the equilibrium problem of shallow shells.

301. S. R. Fraifeld (Kharkov): Further development of the initial rheological equation.

302. V. M. Frolov (Moscow): Temperature stresses in cantilever plates and their effect on stiffness.

TUMARKIN, S. A.

Metody rascheta napriazhenii vo vrashchaiushchikhsia diskakh. Moskva, 1936. 42 p., tables, diagrs. (TSAGI. Trudy, no. 262)

Summary in English.

Bibliography: p. 40

Title tr.: Methods of stress calculation in rotating discs.

QA911.M65 no.262

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

TURANKIN, S. N.

Kriticheskoe chislo oborotov valov s konicheskimi uchastkami. (Moscow. TSAGI. Tekhnicheskie zametki, 1937, no.155, p.1-16, diagrs.)

Title tr.: Critical number of revolutions of shafts with tapered sections.

TL570.M6 no. 155

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

TUMARKIN, S. A.

O vliianii tsentrobezhnykh sil na vibratsii lopastei i lopatok. (Moscow, TSAGI. Tekhnicheskie zametki, 1937, no. 155, p. 17-32, illus. , diagrs.)

Title tr.: Effect of centrifugal forces on vibration of propeller blades and compressor vanes.

TL570.M6 no.155

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

TUMARKIN, S. A.

Raschet diskov s proizvol'noi simmetrichnoi radial'noi nagruzkoi. Moskva, 1939. 42 p., diagrs. (TSAGI. Trudy, no. 397)

Title tr.: Design of discs under arbitrary symmetrical radial load.

Qa911.M65 no.397

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

TUMARKIN, S. A.

Raschet ventiliatorov na prochnost'. Moskva, 1940. 187 p., illus. (TSAGI. Trudy, no.496)

Title tr.: Stress analysis of fans.

NCF

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

TIMARKIN, S. A.

K raschetu diskov na rastiazhenie. (Akademiia Nauk SSSR. Inzhenernyi sbornik, 1941, v.1, no.2, p. 171-174)

Summary in English.

Title tr.: Calculation of stresses in discs.

TA4.A37 1941, v. 1

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

NOSOVA, L.N.; TUMARKIN, S.A.; DITKIN, V.A., prof., otv. red.; ORLOVA, I.A., red.; POPOVA, N.S., tekhn. red.

[Tables of generalized Airy functions for asymptotic solution of the differential equations $\varepsilon(py')'+(q+\varepsilon r)y=f$] Tablitsy obobshchennykh funktsii Eiri dlia asimptoticheskogo resheniia differentsial'nykh uravnenii $\varepsilon(py')'+(q+\varepsilon r)y=f$. Moskva, Vychislitel'nyi tsentr AN SSSR, 1961. 89 p. (MIRA 14:12)

(Airy functions) (Differential equations)

1. TUMARKIN, S. A.

2. USSR (600)

4. Deformations (Mechanics)

7. Calculation of symmetrically loaded toroidal shells by means of trigonometric series, Prikl. mat. i mekh., 16, No. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February, 1953. Unclassified.

TUMARKIN, TSelestin Moiseyevich; SARYLOVA, K.P., red.; KUZ'MINA, N.S., tekhn. red.

[Diagnosis and treatment of emergency pediatric states] Diagnostika i terapiia neotlozhnykh sostoianii u detei. Moskva, Medgiz, 1961. 198 p. (MIRA 15:10)
(PEDIATRICS) (MEDICAL EMERGENCIES)

S/137/62/000/006/143/163
A057/A101

AUTHOR: Tumarkina, A. T.

TITLE: Chemical anodizing of aluminum

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 6, 1962, 95 - 96, abstract 6I604 ("Mashinostr. i energ. Kazakhstana Nauchno-tekhn. sb.", 1961, no. 5 (15), 66 - 67)

TEXT: In the factory "Aktyubrentgen" instead of electrolytic anodizing, chemical anodizing of small articles is carried out in a solution of the following composition (in g/l): H_3PO_4 50, NaF 4, CrO_3 10. The duration of the process is 10 minutes. The use of chemical anodizing avoided expensive adaptations for the hangings of articles and shortened the technological cycle 4 times.

Ye. Layner

[Abstracter's note: Complete translation]

Card 1/1

BUTT, Yu.M.; RASHKOVICH, L.N.; TUMARKINA, G.N.

Interaction between silica and aluminate, aluminoferrite and calcium ferrite in hydrothermal processing. Nauch. dokl. vys. shkoly; khim. i khim. tekh. no.3:580-583 '58. (MIRA 11:10)

1.Predstavlena kafedroy tekhnologii tsementnogo proizvodstva Moskovskogo khimiko-tekhnologicheskogo instituta imeni D.I. Mendeleyeva.
(Sand) (Portland cement)

ZAYONCHKOVSKIY, A.D. , prof., doktor tekhn.nauk; YABKO, Ya.M., kand. tekhn.nauk; VISHNEVSKAYA, M.D., mladshiy nauchn.sotrudnik; TUMARKINA, I.D., studentka; BERNSHTEYN, M.Kh., kand.tekhn.nauk

Steam permeability of artificial leather. Izv.vys.ucheb.zav.; tekh.leg.prom. no.1:42-56 '59. (MIRA 12:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut plenochnykh materialov i iskusstvennoy kozhi i Vsesoyuznyy zaochnyy institut tekstil'noy i legkoy promyshlennosti. Rekomendovana kafedroy tekhnologii obuvi, kozhi, mekha i iskusstvennoy kozhi Vsesoyuznogo zaochnogo instituta tekstil'noy i legkoy promyshlennosti.
(Leather, Artificial—Testing)

CHEBOTAREV, Yuriy Pavlovich; STEPANOV, Vladimir Yevgen'yevich; TUMARKINA, I.I., red.

[Station selective communication system with voice-frequency ringing] Postantsionnaia izbiratel'naia sviaz' s tonal'nym vyzovom. Moskva, Transport, 1965. 79 p. (MIRA 18:7)

TUMARKINA, L.N.

Effect of low-frequency noise on the threshold of hearing in man. Trudy Inst.biol.fiz. no.1:205-214 '55. (MIRA 9:9)
(HEARING) (NOISE)

Country :USSR T
Category= :Human and Animal Physiology, Sensory Organs

Abs. Jour. :Ref Zhur Biol, No. 2, 1959, No. 8530

Author :Tumarkina,L.N.
Institut. :AS USSR
Title :An Investigation of the Relationship between Auditory Sensitivity in Silence and That Seen in the Presence of a Noise.
Orig. Pub. :V sb.: Vospriyatiye svukovykh signalov v razlichn. akust. usloviyakh. M., AN SSSR, 1956, 12-20

Abstract : Following determination of the auditory thresholds in silence of 10 healthy subjects, measurements were made of the thresholds to 8 frequencies (from 100 to 7000 cycles per second) while various sounds were applied for 60 minutes. The range of auditory thresholds in silence and in the presence of noise remained within the same limits (3--20 db) in each of the subjects in all of the experiments. The value of the auditory threshold in silence did not determine the value against a background of noise. When a noise was present, the values of

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Abstract :the auditory thresholds in various individuals approximated each other, i.e., the shift in thresholds was always greater in the subject with the lowest thresholds. In those cases in which the silent thresholds were approximate in value among various individuals, in the presence of noise the thresholds (for the same tones) might vary considerably. Using the mean values of the thresholds (Fletcher) in calculating the magnitude of masking of the pure tones by the noise is inadequate. One must determine the individual limits of the ranges of the auditory thresholds in silence and with a noise present.

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24(1) SOV/112-58-3-5093

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1958, Nr 3, p 247 (USSR)

AUTHOR: Chernyak, R. I., Tumarkina, L. N., and Rozen, O. M.

TITLE: Investigation of Audibility-Threshold Variation Caused by Varying the Duration of Application of a Strong Acoustic Irritant
(Issledovaniye izmenchivosti porogov slyshimosti cheloveka v svyazi s razlichnoy dlitel'nost'yu deystviya sil'nogo zvukovogo razdrazhitelya)

PERIODICAL: V sb.: Vospriyatiye zvukovykh signalov v razlichn. akust. usloviyakh. M., AS USSR, 1956, pp 92-101

ABSTRACT: Audibility thresholds of 10 persons within 100-7,000-cps band during and after the application of a 120-db white noise were measured. It was found that in both cases (neglecting the period of sensitivity recovery) the spread of the thresholds measured at an interval of 1 min did not exceed 6 db, and was independent of the noise application duration or of the threshold absolute value. Bibliography: 6 items.

A.V.R.

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